



Classification:

AT13-018

Reference:

ITB13-037

Date:

September 10, 2013

2013 – 2014 JX/QX60; JUDDER DURING LIGHT ACCELERATION

APPLIED VEHICLE:

2013 JX (L50)

2014 QX60 (L50)

Built after 5N1AL0M(**)DC 343902 and MAR 26, 2013

APPLIED TRANSMISSION:

CVT

IF YOU CONFIRM

When driving an Applied Vehicle a judder (shudder, single or multiple bumps or vibrations) happens during light acceleration,

and all of the following when the issue occurs:

- Vehicle speed is between 5 and 35 mph.
- Throttle position is about 10%.
- When issue occurs, if more throttle is applied issue stops.
- No DTCs are stored.

ACTION

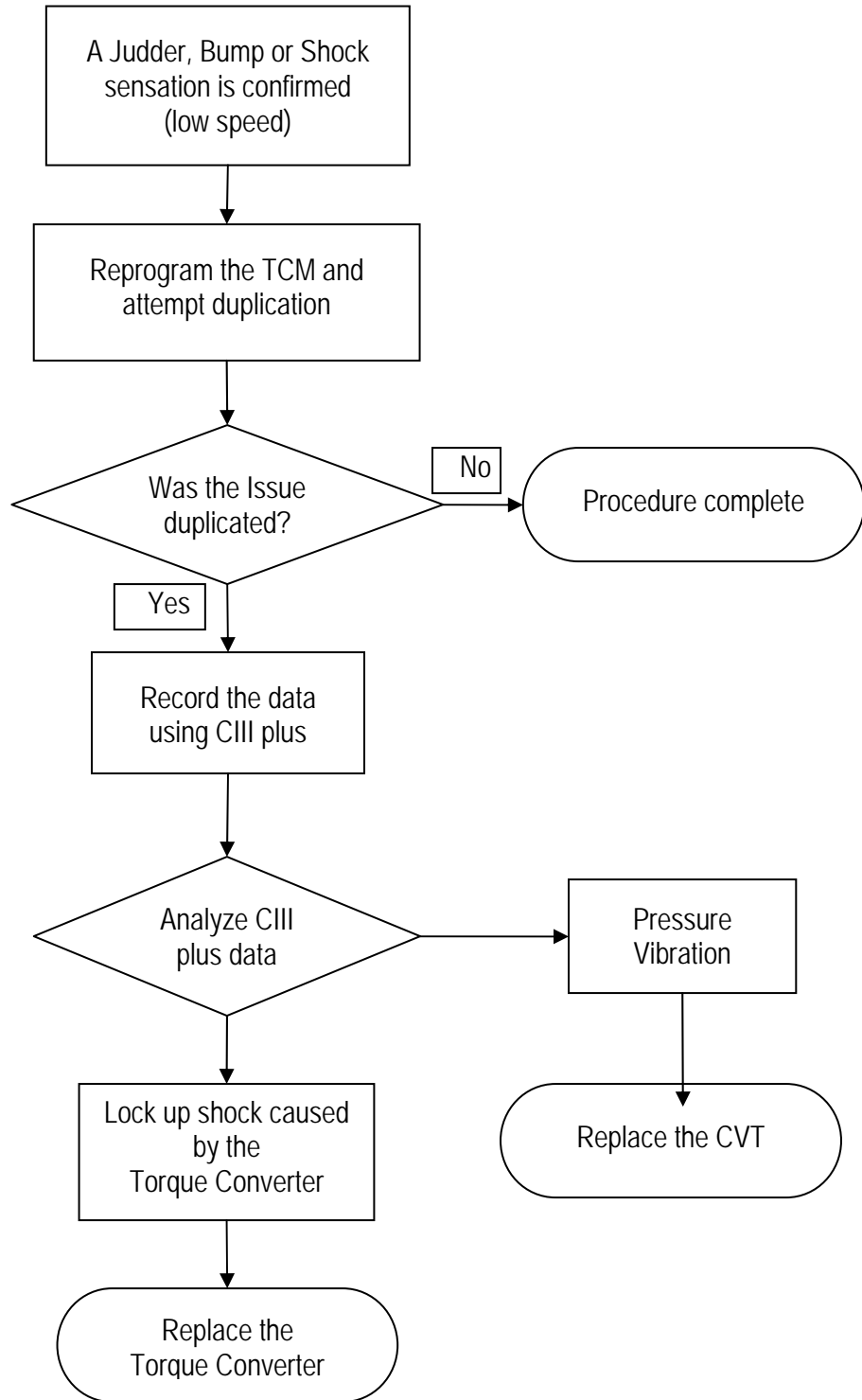
1. To determine the root cause perform the Service Procedure starting on page 3.
2. Should reprogramming the TCM NOT resolve the concern, first verifying the vehicle's service history and then recording and analyzing the data with Consult III plus (C-III plus) as the symptom occurs is required to accurately determine the root cause of the incident, if it should occur.

NOTE: This bulletin **does not apply** to a condition called "fuel economy drone". If the customer describes their issue as a lugging or as a groan/drone at low speed this is a normal condition to maximize fuel economy. Some customers will describe the condition as similar to a manual transmission vehicle in high gear at low speed.

IMPORTANT: The purpose of "ACTION" (above) is to give you a quick idea of the work you will be performing. You **MUST** closely follow the entire Service Procedure as it contains information that is essential to successfully completing this repair.

Infiniti Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. NOTE: If you believe that a described condition may apply to a particular vehicle, DO NOT assume that it does. See your Infiniti dealer to determine if this applies to your vehicle.

FLOW CHART A



SERVICE PROCEDURE

TCM Reprogramming

NOTE:

- Most instructions for reprogramming with CONSULT-III plus (C-III plus) are displayed on the CONSULT PC screen.
- If you are not familiar with the reprogramming procedure, **click here**. This will link you to the "CONSULT- III plus (C-III plus) Reprogramming" general procedure.

CAUTION:

- Connect a battery charger to the vehicle battery.
If the vehicle battery voltage drops below 12.0V or rises above 15.5V during reprogramming, the TCM may be damaged.
- Be sure to turn OFF all vehicle electrical loads.
If a vehicle electrical load remains ON, the TCM may be damaged.
- Be sure to connect the AC Adapter.
If the CONSULT PC battery voltage drops during reprogramming, the process will be interrupted and the TCM may be damaged.
- Turn off all external Bluetooth® devices (e.g., cell phones, printers, etc.) within range of the CONSULT PC and the VI. If Bluetooth® signal waves are within range of the CONSULT PC during reprogramming, reprogramming may be interrupted and the TCM may be damaged.

1. Connect the CONSULT PC to the vehicle to begin the reprogramming procedure.
2. Start CONUSLT-III (C-III) plus.
3. Wait for the plus VI to be recognized.
 - The serial number will display when the plus VI is recognized.
4. Select **Re/programming, Configuration**.

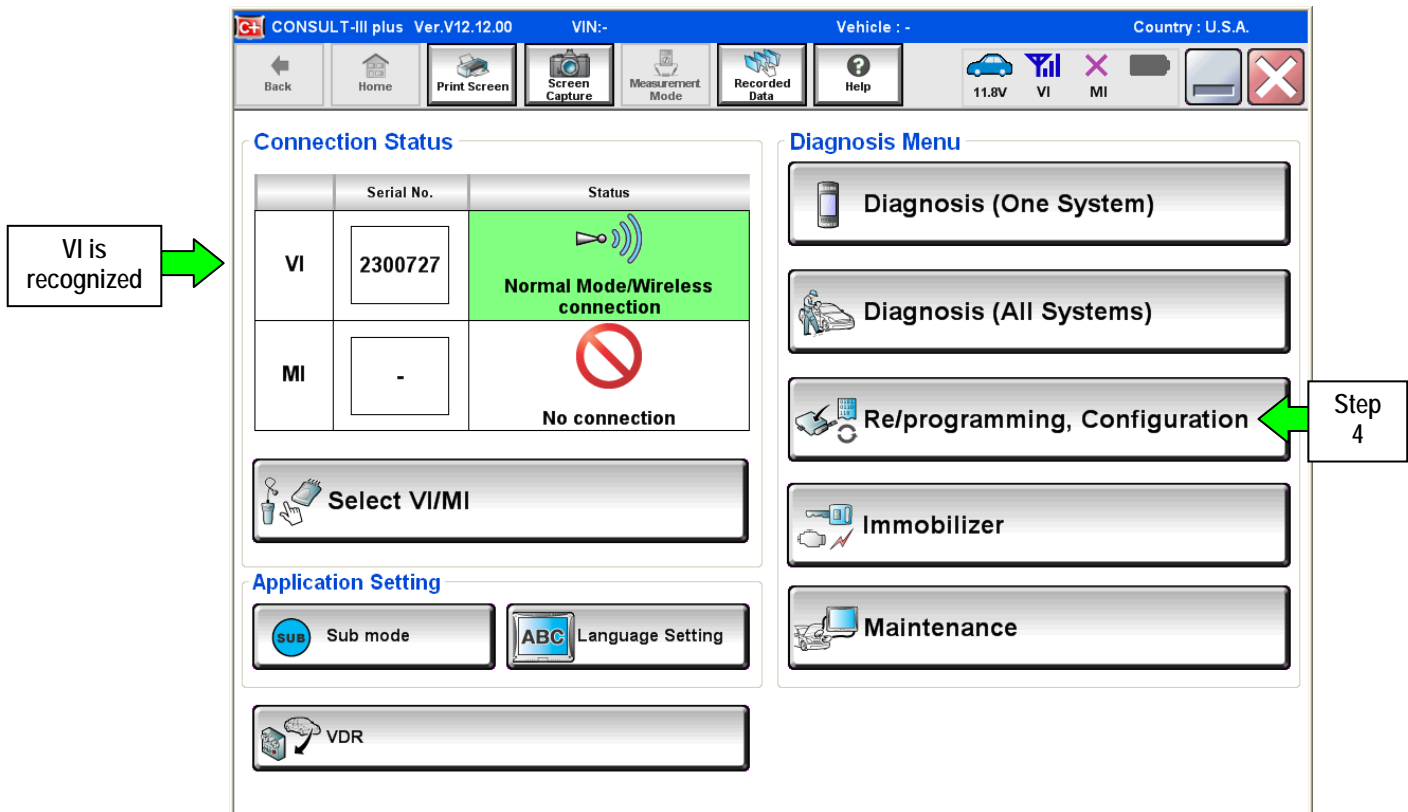


Figure 1

5. Follow the on-screen instructions and navigate the C-III plus to the screen shown in Figure 2 on the next page.

6. When you get to the screen shown in Figure 2, confirm this bulletin applies as follows.
 - A. Find the TCM **Part Number** and write it on the repair order.

NOTE: This is the current TCM Part Number (P/N).

CONSULT-III plus Ver. VIN Vehicle : Country : U.S.A.

Back Home Print Screen Screen Capture Measurement Mode Recorded Data Help 11.8V VI MI 7/7

Re/programming, Configuration Operation Selection **Save ECU Data**

Save ECU Data

Touch "Save" to save operation log and the current part number as listed below to CONSULT. Operation log helps to restart next operation by selecting suitable operation log. Operation log is erased after operation has completely finished.

File Label	XXXXXXXXXXXXXXXXXX
Operation	REPROGRAMMING
System	TRANSMISSION
Part Number	31036 - ____
Vehicle	XXXXXXXXXXXXXXXXXX
VIN	XXXXXXXXXXXXXXXXXX
Date	11/1/201X 1:22:16 AM

Save

Figure 2

- B. Compare the P/N you wrote down to the numbers in the **Current TCM Part Number** column in **Table A** below.
 - If there is a match, this reprogramming applies. Continue with the reprogramming procedure.
 - If there is not a match, this reprogramming is not needed.

Table A

Model	Model Year	Current TCM Part Number Before Reprogramming: 31036 -
JX/QX60 (L50)	13-14MY	9NA6A, 3JU0A

7. Follow the on-screen instructions to navigate C-III plus and reprogram the TCM.

NOTE:

- In some cases, more than one new P/N for reprogramming is available.
 - In this case, the screen in Figure 3 displays.
 - Select and use the reprogramming option that **does not** have the message "Caution! Use ONLY with NTBXX-XXX".
- If you get this screen and it is blank (no reprogramming listed), it means there is no reprogramming available for this vehicle. Close C-III plus and refer back to ASIST for further diagnosis.

IMPORTANT: If C-III plus locks up or freezes at this point or displays "cannot complete reprogramming, the CONSULT PC is set up with User Rights. Reprogramming can be completed with Administrator log in", the TOUGHBOOK settings need to be changed so that Users have full access rights. See your Dealership's IT System Administrator for details.

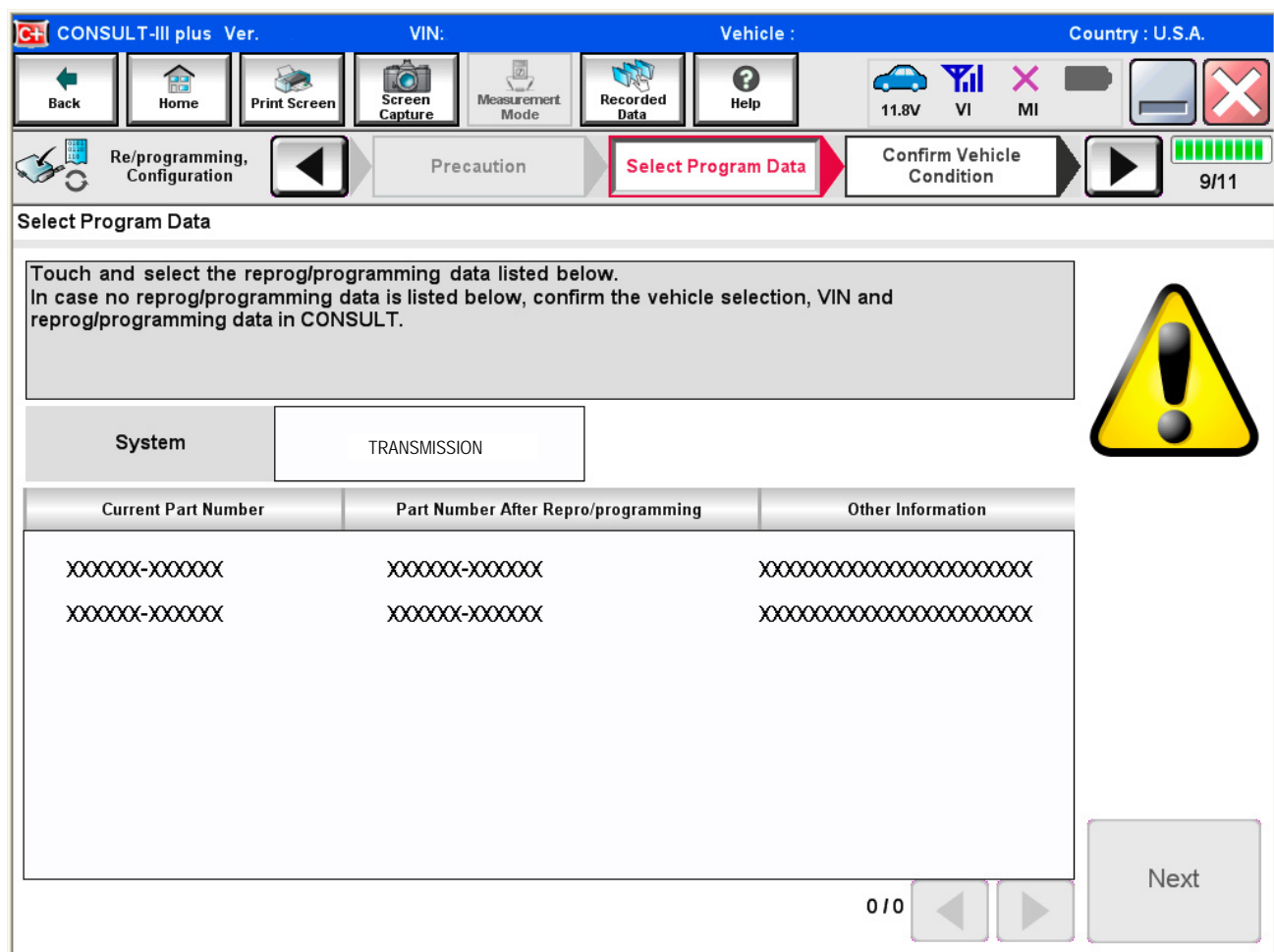


Figure 3

8. When the screen in Figure 4 displays, reprogramming is complete.

NOTE: If the screen in Figure 4 does not display (reprogramming does not complete), refer to the information on the next page.

9. Disconnect the battery charger from the vehicle.

10. Select **Next**.

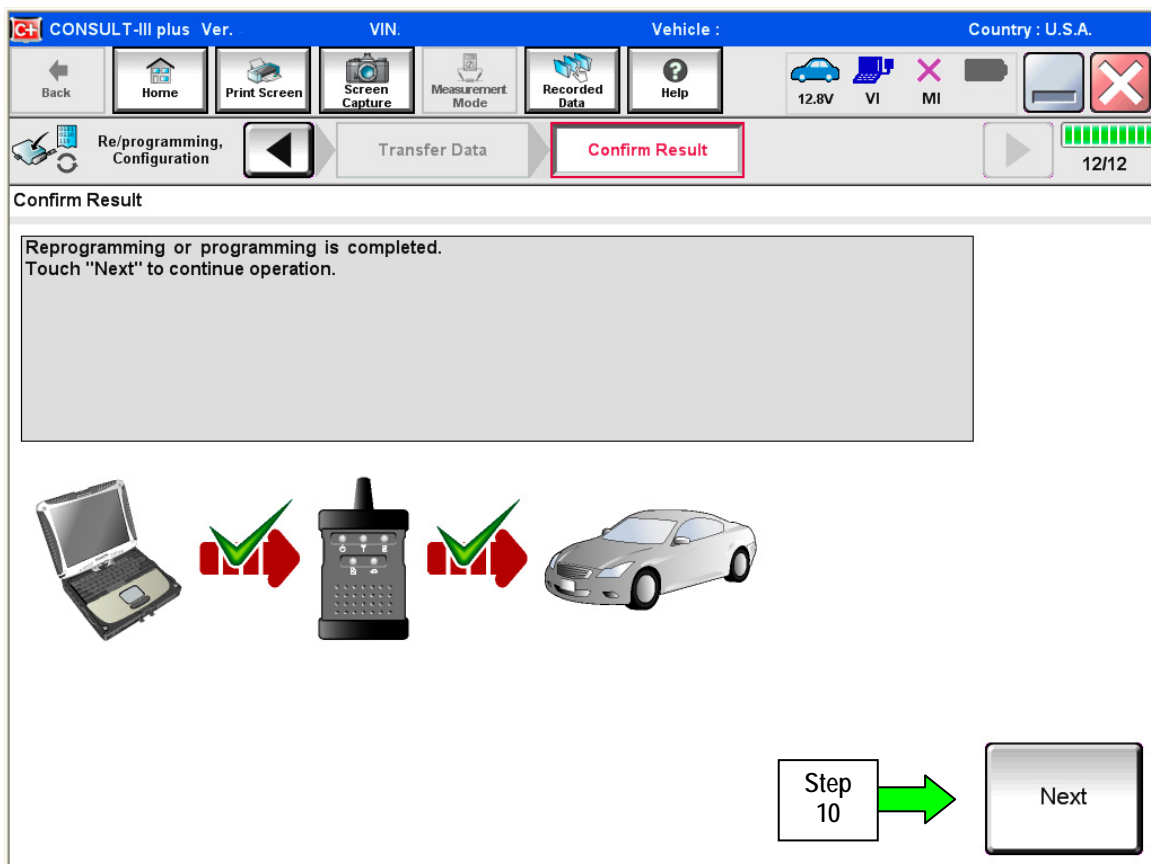


Figure 4

NOTE:

- In the next step (page Z), you will perform **Erase All DTCs**.
- DTC erase is required before C-III plus will provide the final reprogramming confirmation report.

TCM recovery:

Do not disconnect plus VI or shut down C-III plus if reprogramming does not complete.

If reprogramming does not complete and the “!?” icon displays as shown in Figure 5:

- Check battery voltage (12.0–15.5 V).
- Ignition is ON, engine OFF.
- External Bluetooth® devices are OFF.
- All electrical loads are OFF.
- **Select retry and follow the on screen instructions.**
- “Retry” may not go through on first attempt and can be selected more than once.

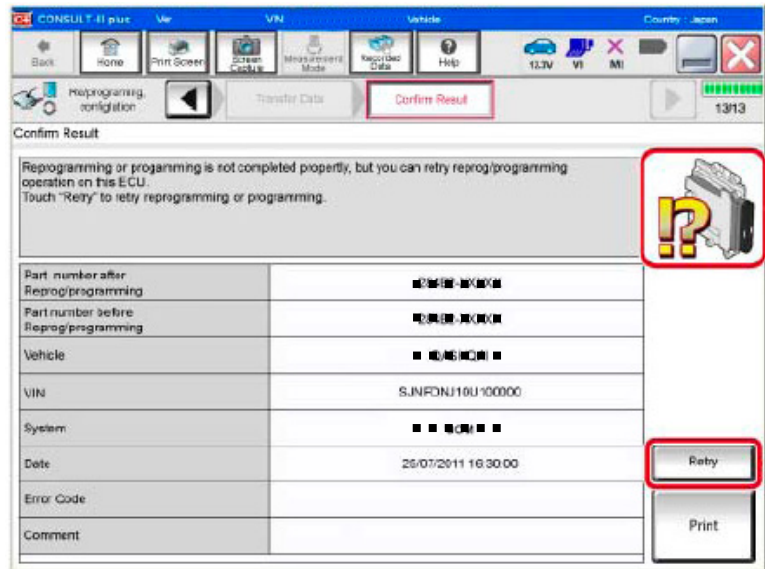


Figure 5

If reprogramming does not complete and the “X” icon displays as shown in Figure 6:

- Check battery voltage (12.0 – 15.5 V).
- CONSULT A/C adapter is plugged in.
- Ignition is ON, engine OFF.
- Transmission is in Park.
- All C-III plus / VI cables are securely connected.
- All C-III plus updates are installed.
- **Select Home, and restart the reprogram procedure from the beginning.**

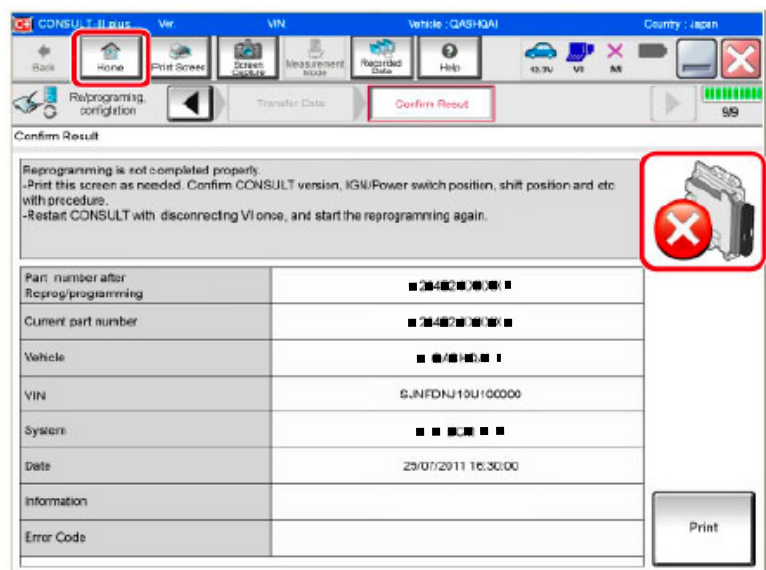


Figure 6

11. Follow the on-screen instructions to **Erase All DTCs**.
12. When the entire reprogramming process is complete, the screen in Figure 7 will display.
13. Verify the before and after part numbers are different.
14. Print a copy of this screen (Figure 7) and attach it to the repair order for warranty documentation.
15. Select **Confirm**.

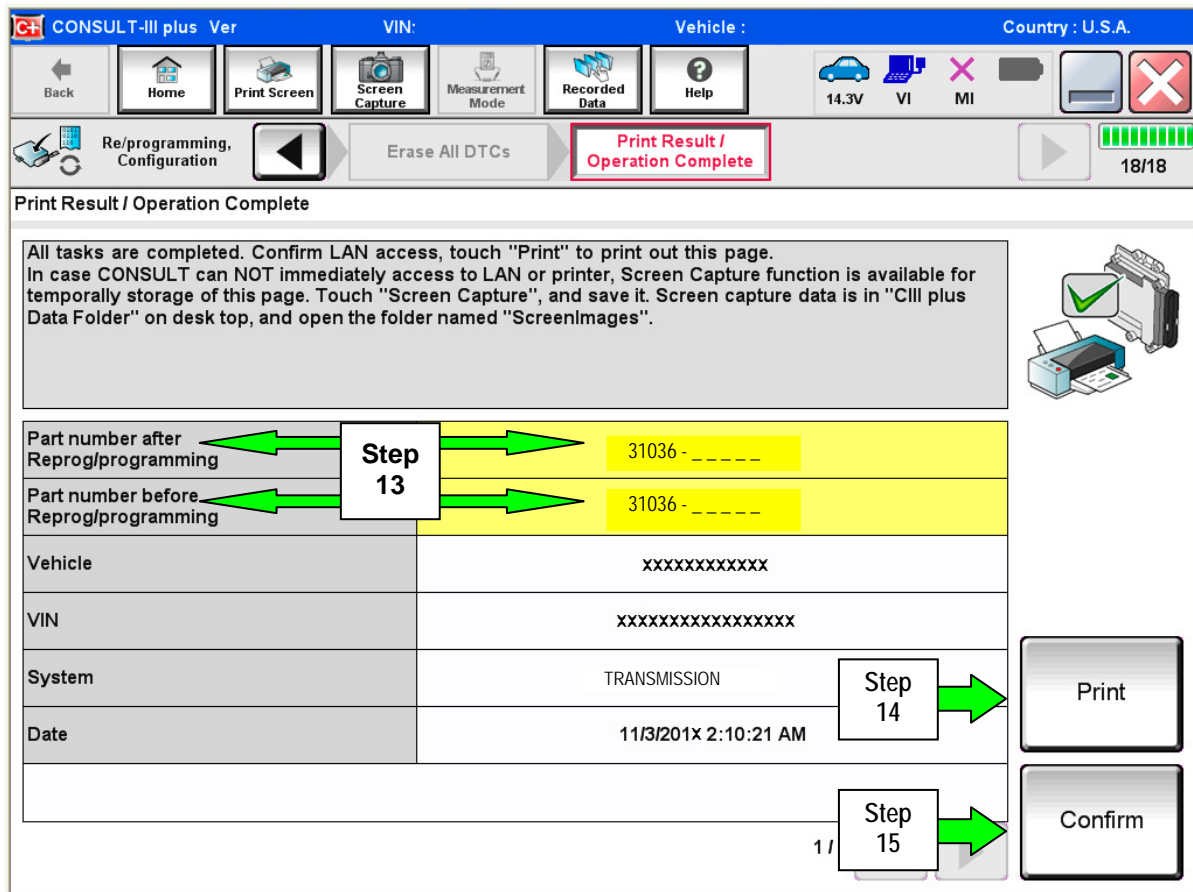


Figure 7

16. Close C-III plus.
17. Turn the ignition OFF.
18. Disconnect the plus VI from the vehicle.
19. Make sure the vehicle operates correctly and the MIL is OFF.

Recording and analyzing data during judder incident using C-III plus to confirm root cause

Configuring CIII plus

1. Open C-III plus, connect the VI and then select **Diagnosis (One System)**.
2. Select **TRANSMISSION** and then **DATA MONITOR** (Figure 8).
3. Select **Clear Monitor Item**.
4. Select **Setting** button:

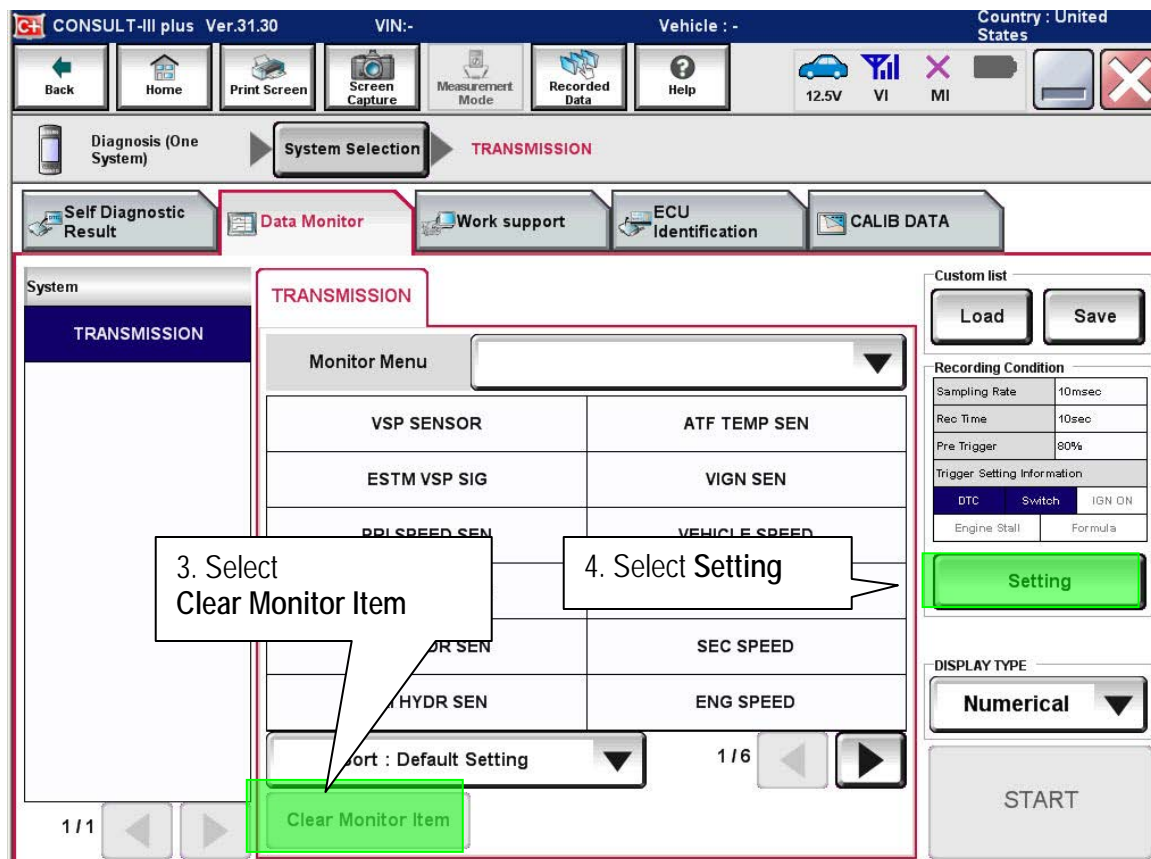


Figure 8

5. Under **setting**, select settings shown in Figure 9.

- **Manual trigger.**

And then:

- **Recording Time:** 10sec.
- **Sampling Rate:** 10msec.
- **Trigger Point (Pre/post):**
 - **Pre-Trigger** 80%
 - **Post-Trigger** 20%

Recording Condition

Trigger Condition 1

Trigger Condition 2

Recording Time 10sec

Sampling Rate 10msec

Trigger Point (Pre/Post)

Pre-Trigger 80%

Post-Trigger 20%

Extend Record Time

Step 5

Default Setting

Cancel

Confirm

6. Select Confirm

Figure 9

6. Select **Confirm** to save the new Recording Conditions as the default.

7. Select these 5 monitored signals ONLY from **Monitor Menu** and then select **START** when ready.

- INPUT REV
- SEC SPEED
- ENG SPEED
- SEC PRESSURE
- PRI PRESSURE

IMPORTANT: For this Service Procedure, select only the signals in step 6.

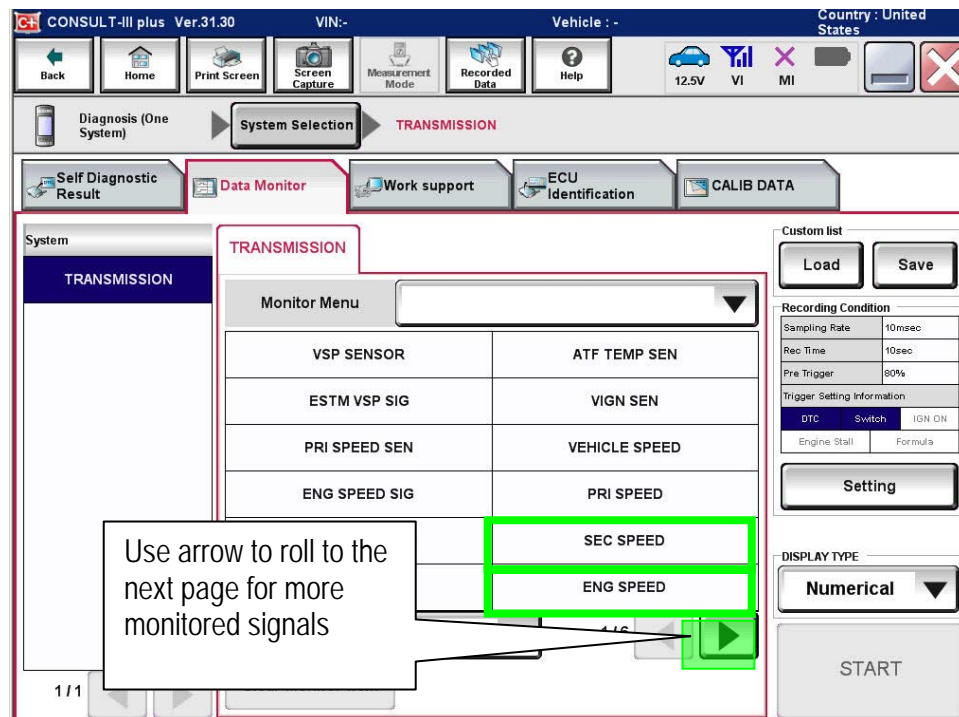


Figure 10

8. Perform the customer's described driving conditions to see if the judder incident can be duplicated.
 - Once duplicated, immediately record the data with the C-III plus that was set up in steps 1-7 as the issue occurs.

Save and Review Recorded Data

9. After the C-III plus data has been recorded with **DATA MONITOR**, save the data file as "**FlyingGraph(last 8 of VIN).txt file**" (example: FlyingGraphEM123456.txt file) onto the Consult PC desktop as shown in Figure 11.

NOTE: The Flying Graph software is available on the desktop of your Consult PC. It can be used for the data review.

- Data files must be saved as ".txt file" type before it can be used with the Flying Graph application. Refer to Figure 11 below for example.
- For an illustration of the C-III plus desktop shortcut to the Flying Graph application see Figure 12 on the next page.

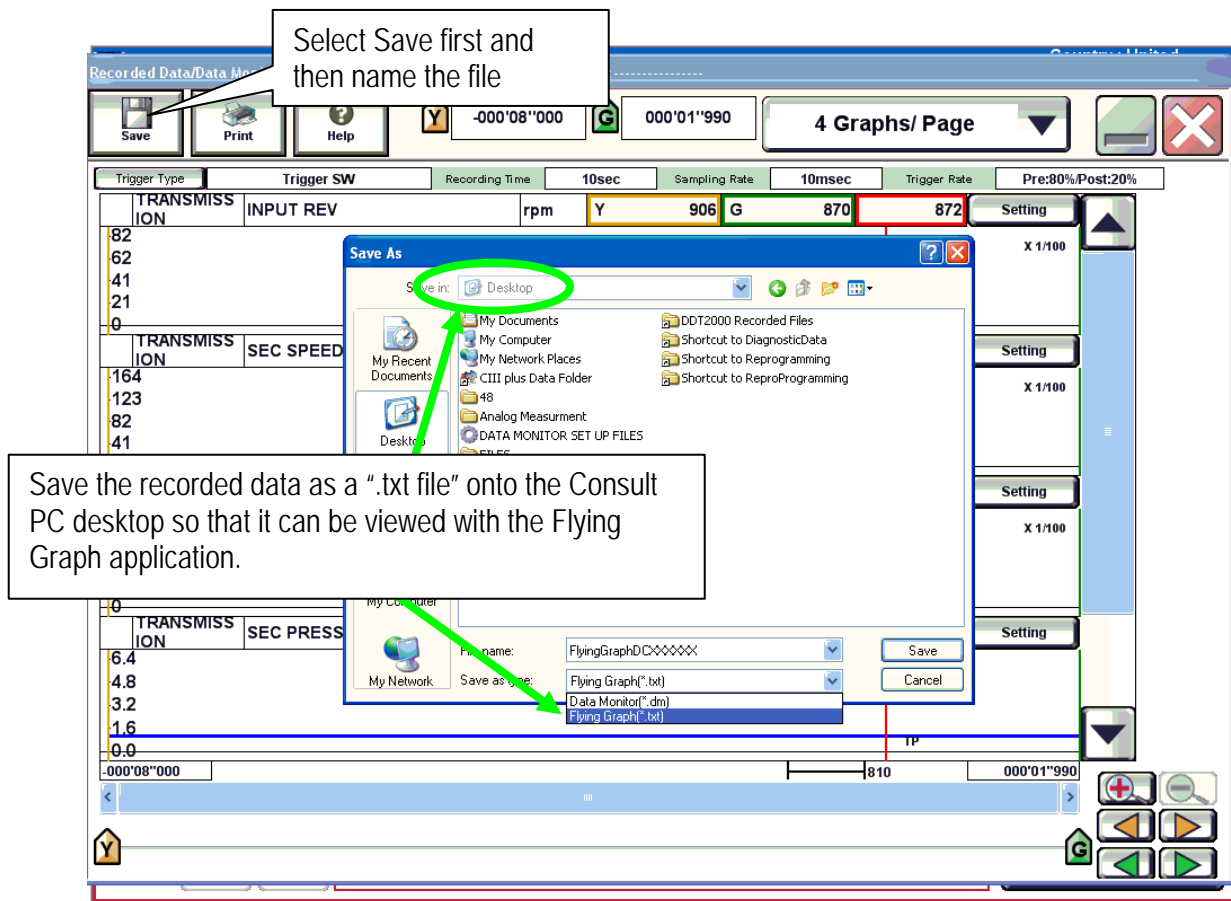


Figure 11

10. Open the .txt file saved to the Consult PC desktop in step 9 by dragging the text file on the desktop over the icon for the Flying Graph application (see Figure 12 below).

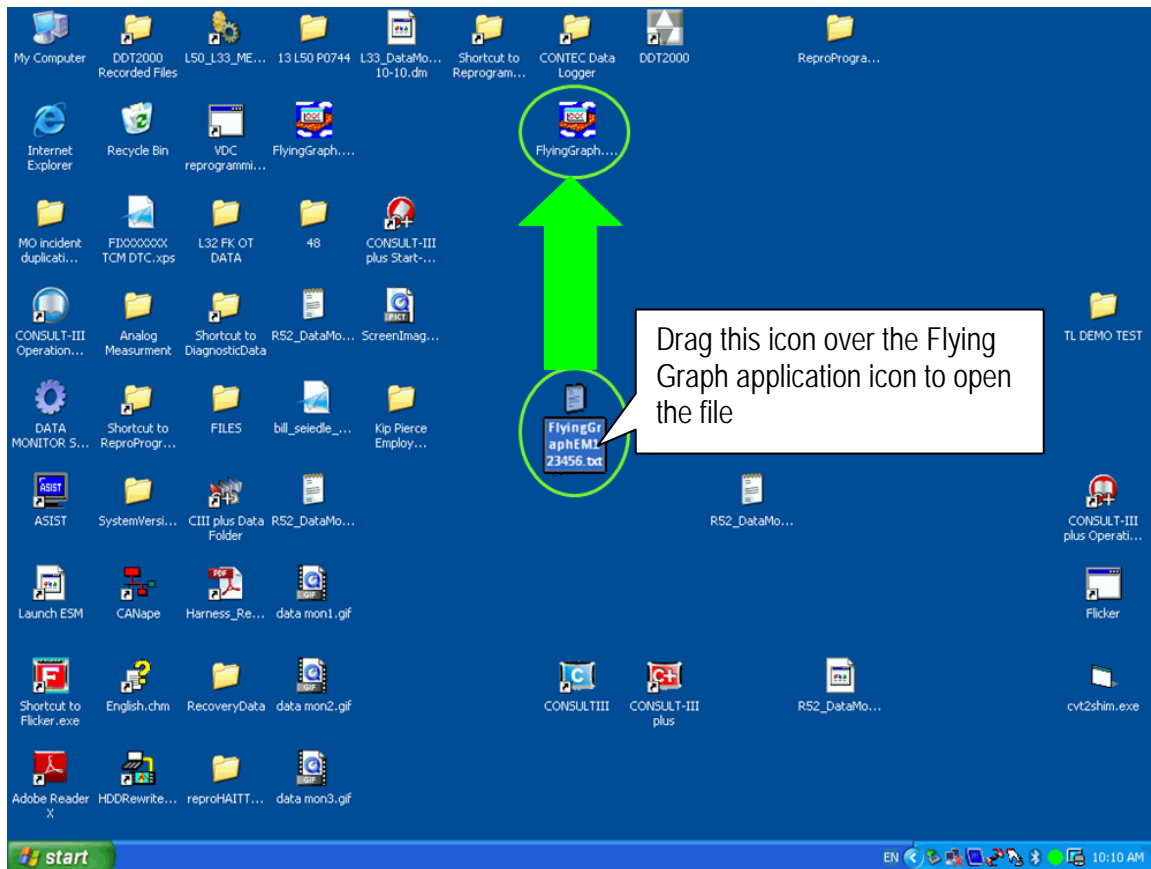


Figure 12

- 11 The Flying Graph will initially display only four (4) data channels. To display the 5th recorded channel, right click to the left of the data channel not visible (see Figure 13) and click on “Add graph” to display the graph.
 12. Review the **INPUT REV**, **SEC SPEED**, **ENG SPEED**, **PRI PRESSURE** and **SEC PRESSURE** signals for signs of a “Pressure Vibration”.
- Figures 13 and 14 show reference examples of with and without a Pressure Vibration.

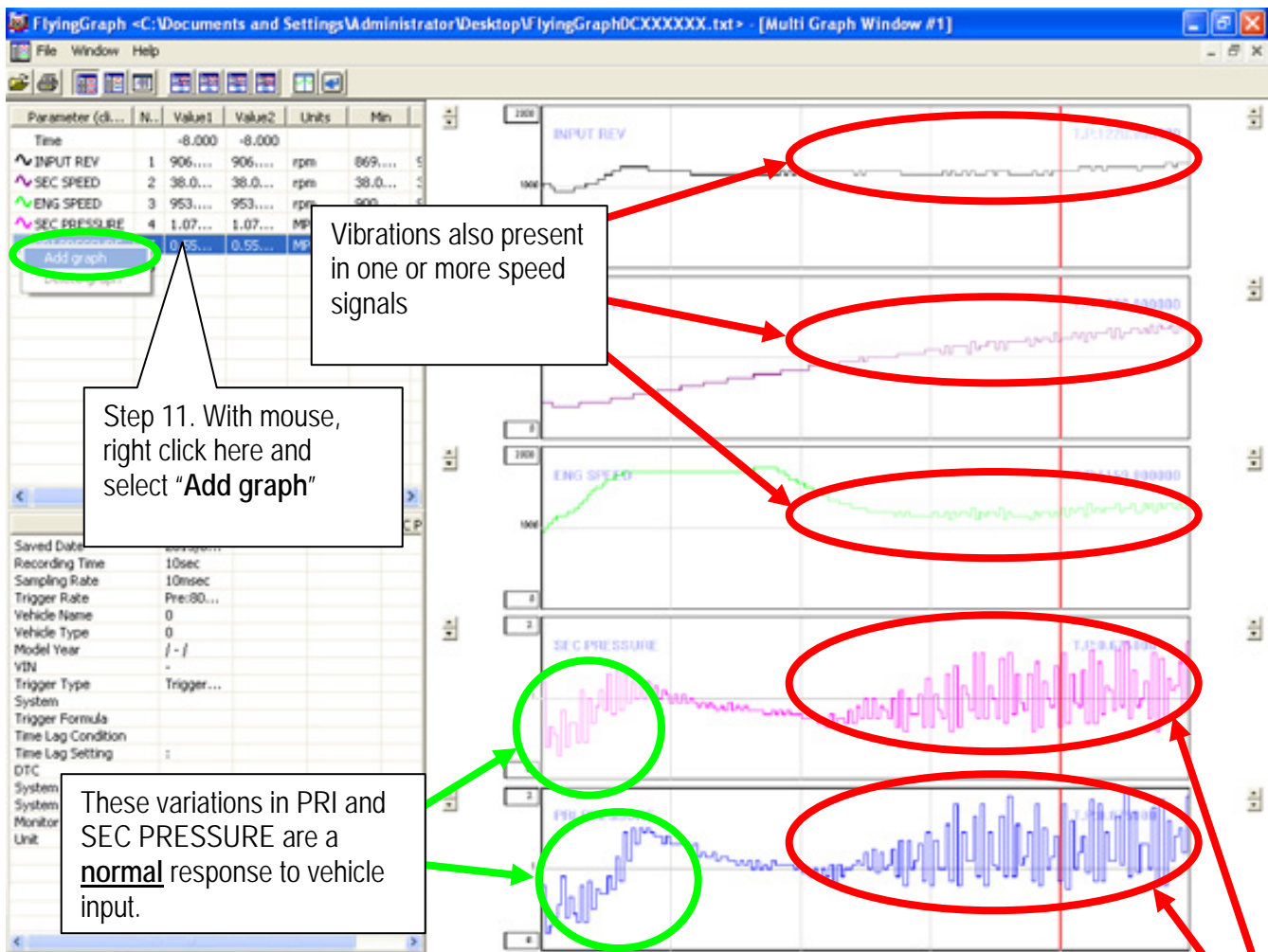


Figure 13

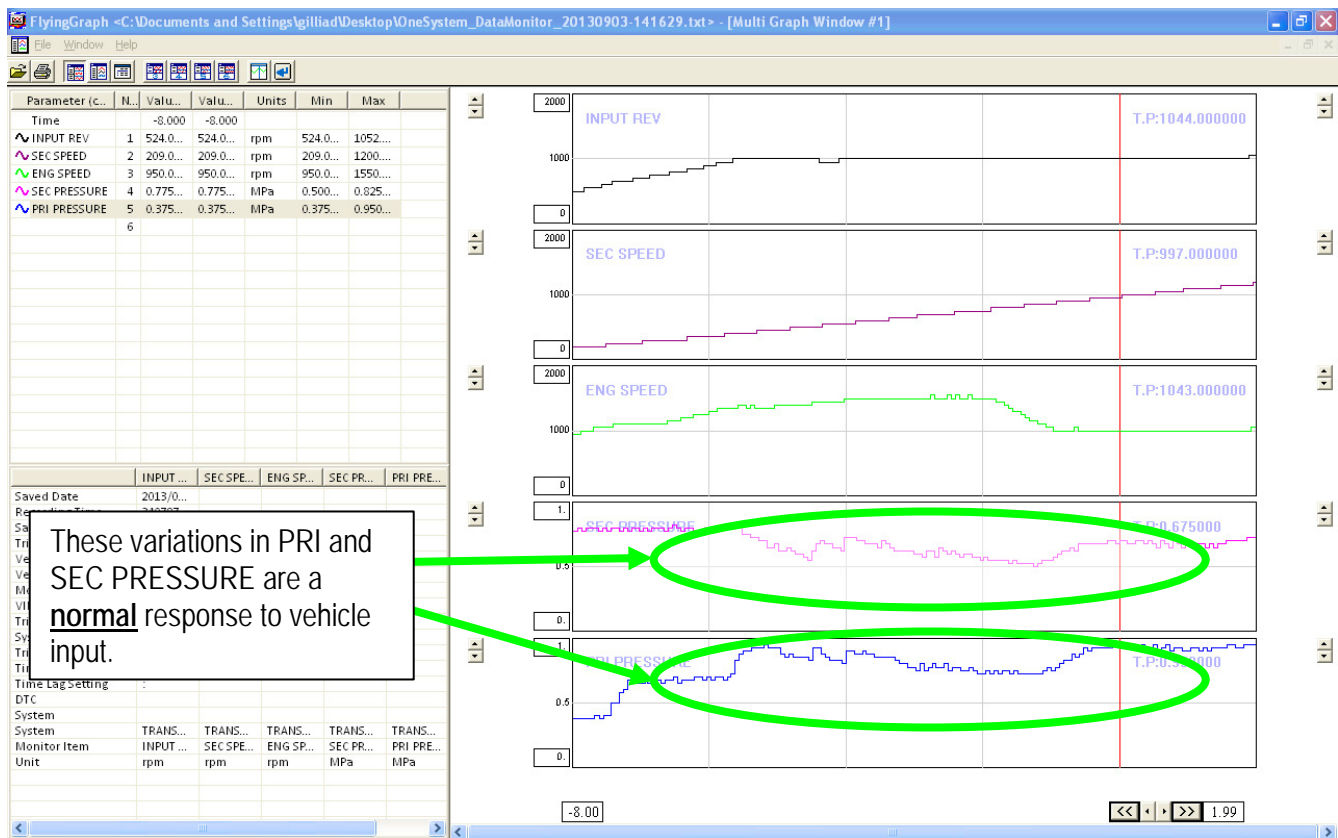


Figure 14

NOTE: Figure 14 shows INPUT REV, SEC SPEED, ENG SPEED, PRI PRESSURE and SEC PRESSURE from a vehicle that does not have a judder present.

13. During data review, if your data shows a Repetitive Pressure Vibration in either **PRI PRESSURE** or **SEC PRESSURE**, and also shows an irregular (non-smooth) line in one or more speed signals (**ENG SPEED**, **INPUT REV**, **SEC SPEED**) as indicated in Figure 13, replace the CVT to resolve (Figure 13 shows Repetitive Pressure Vibrations circled in red).

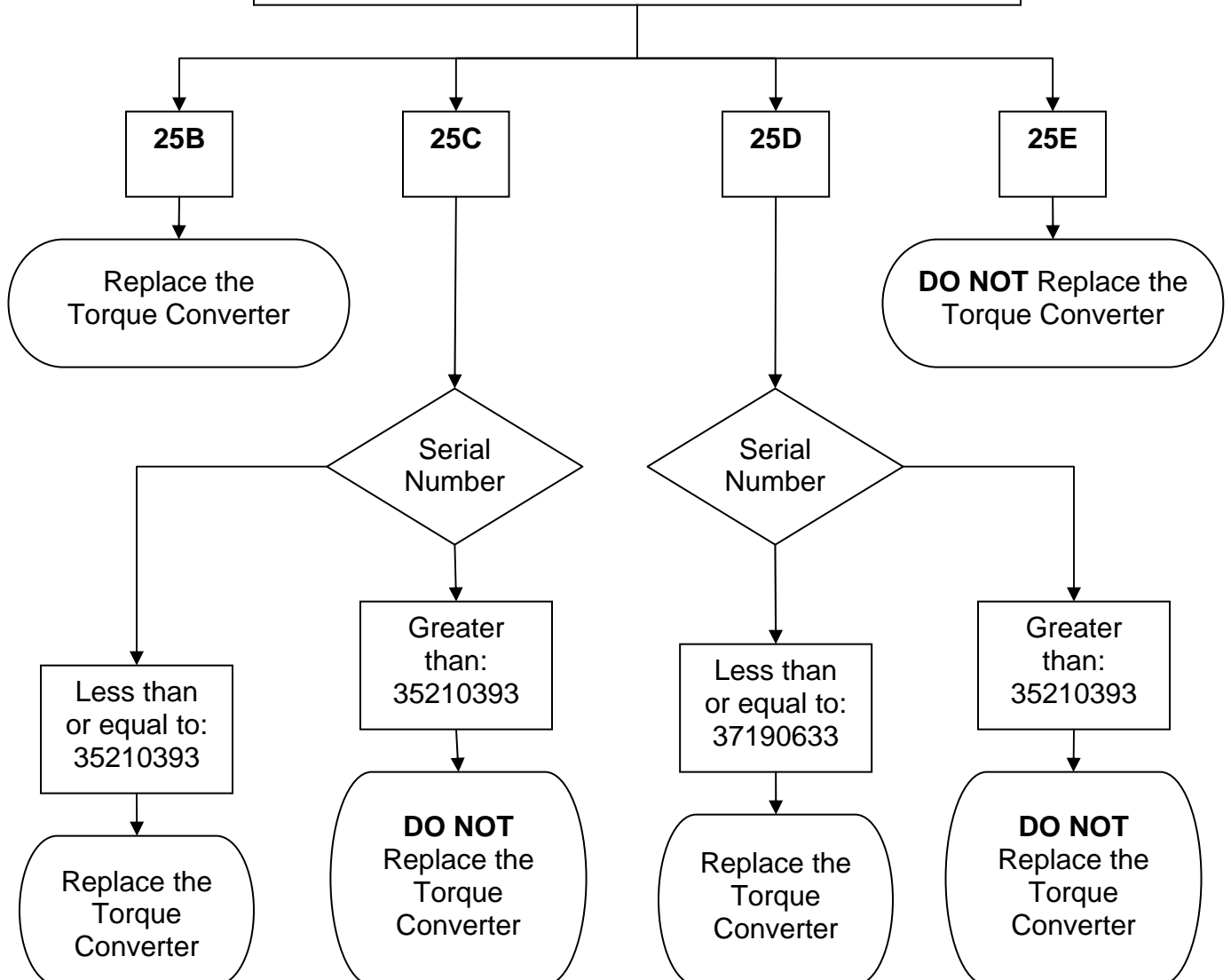
- **Do not** replace the torque converter assembly if the data review shows Repetitive Pressure Vibration as described above.
- If a judder is present and the recorded data review shows that the data lines are smooth with no oscillations as shown in Figure 14 above refer to Torque Converter Replacement on page 17.

NOTE: Refer to the appropriate section of the Electronic Service Manual (ESM) for the procedure to replace the CVT, as needed.

- If a judder is present, recorded data review does not indicate pressure vibration and the torque converter in the CVT is already "D" level or greater (see **FLOW CHART B** on page 17), refer to ASIST or the appropriate section of the ESM for further diagnostic assistance.

FLOW CHART B

Check the stamping on the outside of the torque converter



Torque Converter Replacement

1. Replace the torque converter with the new one listed in the Parts Information:

- Refer to the TM section of the appropriate Service Manual for replacement information.

NOTE:

- Make sure the converter housing oil seal (front seal) is not damaged. If damaged, replace it.
- If the front seal is replaced, use special tool J-50817 (oil pump seal installer) to install and properly seat the seal.
- Make sure CVT fluid, as a lubricant, is applied to the front seal, torque converter snout, and input shaft o-ring seal before installation of the new torque converter.

PARTS INFORMATION

DESCRIPTION	PART Number	QUANTITY
Torque Converter (2)	31100 – 3WX0D	1
CVT ASSEMBLY	(1)	1
NS-3 CVT Fluid	999MP-NS300P	(3)

- (1) Refer to the electronic parts catalog (FAST) for the correct CVT Assembly part number for the vehicle.
 (2) Due to limited supply, Part Number 31100-3WX0D will be on restriction for several weeks after the publication date of this bulletin. If 31100 – 3WX0D is needed during the restriction period, use the Parts Order Form attached to the last page of this bulletin.
 (3) As needed.

NS-3 CVT Fluid can be ordered from the Maintenance Advantage website that can be accessed through www.nnanet.com (NNANET.COM, Parts & Service, Maintenance Advantage-Tire/Wiper/Battery/Chemical).

CLAIMS INFORMATION

Submit a Primary Part (PP) type line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Reprogram Transmission Control Module	(1)	JE99AA	ZE	32	(2)
Diagnose Judder **		JX25AA			1.0

OR

Submit a Primary Part (PP) type line claim using the following claims coding:

DESCRIPTION	PFP	OP CODE	SYM	DIA	FRT
Reprogram Transmission Control Module	(1)	JE99AA	BE	32	(2)
R&I Automatic CVT Transaxle Assy		JD01AA			
RPL Torque Converter Assy **		JD043A			
RPL Automatic CVT Transaxle		JD023A			
Diagnose Judder **		JX25AA			1.0

- (1) Refer to Parts Information above and use the Torque Converter Part Number (31100-XXXXX) as the PFP.
 (2) Reference the current Nissan Warranty Flat Rate Manual and use the indicated Flat Rate Time.

** Use these operation codes only if need for the diagnosis and actual repair performed.

PARTS ORDER FORM
for
2013 JX35 SHUDDER FROM TORQUE CONVERTER LOCK UP CLUTCH

INCOMPLETE ORDER FORMS WILL NOT BE PROCESSED

Dealer Code:

Order Date:

Dealership Email Address:

VIN Number:

PDC:

<input type="checkbox"/> Sacramento PDC	<input type="checkbox"/> Orlando PDC
<input type="checkbox"/> Los Angeles PDC	<input type="checkbox"/> Chicago PDC
<input type="checkbox"/> Dallas PDC	<input type="checkbox"/> Greenville PDC
<input type="checkbox"/> Baltimore PDC	<input type="checkbox"/> Memphis – Olive Branch PDC
<input type="checkbox"/> New York PDC	

Part Number	Description	Quantity
31100-3WX0D	Torque Converter	

Send the completed form to:

Email to campaign.parts@nissan-usa.com

NOTE: This bulletin and Service Procedure is not a campaign. For convenience, the above email address is being used to fulfill and expedite this part request.